



October 2020
Volume 7

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Washington Metropolitan Society of Health System Pharmacists Newsletter



Message from the WMSHP President

Dear members and colleagues,
The Covid-19 pandemic has provided a challenge to pharmacists who are the most accessible health care providers. And for many patients, pharmacists are often the first link for those seeking patient care. This presents pharmacists with opportunities to enhance their outreach and communicate with diverse populations that could lead patients to take advantage of healthcare resources and voice their health concerns to accessible health care providers who could optimize and provide inclusive healthcare in the community. With the Covid-19 pandemic's impact in many communities, the CDC has called for health professionals to provide culturally competent care and to identify patients' individual health concerns and address factors that may hinder that care.

See page 16 – President message

Technology in Pandemic Times

By Theresa Chan, PharmD

As we continue to work amidst the Covid-19 pandemic, utilization of new and different technologies is on the rise for pharmacy care. Telemedicine in particular has become instrumental in overcoming barriers in healthcare, especially for certain patient populations. As always, WMSHP aims to refresh and equip their members and other pharmacists in the Washington D.C. Metropolitan area with accessible, regular, timely, and up-to-date educational opportunities that also help meet continuing education (CE) requirements. WMSHP is pleased to announce a joint WMSHP-Pharmacy Times CE virtual ACPE- accredited CE program offering of 1.0 contact hour (0.10 CEU) for pharmacists on Thursday, November 19, 2020 starting at 6 pm on "Immune Checkpoint Inhibitors: Utilizing Telemedicine to Enhance Management of Adverse Events Within Health-System Settings" presented by Dr. Jocelyn E. Mohs, who serves as the pharmacy supervisor as well as the residency program director for the newly established PGY-2 Oncology Pharmacy Residency at Sanford Roger Maris Cancer Center in Fargo, North Dakota.

See page 2 November CE

Announcements and registration can be accessed at:
http://view.email.pharmacytimes.org/?qs=5327a7e10a7bb37fd8_d90663607378b083bd98afcc976ed080f3f01115d34472f37b240db66f5c7fd176e4e1eb23a86915d97be8ce294c2d1d4c64f6720b2638feb17f20e93b69c8

A few educational objectives for this CE virtual event include: explain how mechanisms of action of immune checkpoint inhibitors (ICIs) relate to the pathophysiology and development of less common immune-related adverse events (irAEs); illustrate the importance of biomarkers in predicting ICI efficacy and toxicity; compare the features of less common irAEs, including incidence, timing of appearance, and management strategies; and identify methods by which telemedicine can overcome barriers to cancer care, specifically with regard to ICI therapy.

We hope that you can take advantage of this unique and exciting CE opportunity that will be announced by WMSHP.



Faculty Presenter: Jocelyn E. Mohs, PharmD, BCOP
Pharmacy Supervisor, PGY-2 Oncology Pharmacy
Residency Program Director
Sanford Roger Maris Cancer Center Pharmacy
Fargo, North Dakota

Presenter for Thursday November 19 6pm EST ACPE 1-hour seminar:

“Immune Checkpoint Inhibitors: Utilizing Telemedicine to Enhance the Management of Adverse Events Within Health-System Settings”

WMSHP Supporter Spotlight

Emily Guerrieri PharmD. BCPS



Emily Guerrieri, PharmD, BCPS is a Medical Science Liaison (MSL) within the renal-cardio medical affairs team at AstraZeneca. Emily obtained her PharmD from Purdue University (go Boilers!) and completed a PGY-1 residency at St. Elizabeth's Medical Center in Brighton, MA. Through her previous roles as a community pharmacist, hospital pharmacist, and research project manager, Emily has seen the immense impact that new and innovative medications can have on the lives of patients. With over 37 million Americans living with chronic kidney disease, Emily appreciates the opportunity to deliver the science behind AstraZeneca's medications to healthcare providers (like yourselves) in hopes of improving the lives of the patients they treat. If you have any questions about AstraZeneca's renal therapies, including the new oral potassium binding agent Lokelma, feel free to contact Emily at emily.guerrieri@astrazeneca.com
See Supporter Spotlight on page 3

Supporter Spotlight (continued from page 2)

As a company, AstraZeneca is constantly pushing the boundaries of science to deliver life-changing medicines in: Cardiovascular, Renal and Metabolism; Oncology; Respiratory, Inflammation and Autoimmunity; Infection and Vaccines; and Neuroscience. This requires a large and diverse workforce of scientists, healthcare providers and more who are unified behind AstraZeneca's core values of: We follow the science, we put patients first, we play to win, we do the right thing and we are entrepreneurial.

Editor's note: Emily partnered with us for our last CE virtual seminar.

Howard Post Graduate Readiness Program Looks for Mentors

by Jamila Jordan PharmD, MBA Director of Experiential Program Howard University College of Pharmacy
jamila.jorden@howard.edu

Good afternoon Washington Metropolitan Society of Health-System Pharmacists (WMSHP), As a constant supporter of the students and faculty at Howard University College of Pharmacy we are reaching out to you to assist in our Annual Post Graduate Readiness Program. In years past the program was focused on preparing students for residency but has evolved to include fellowship and those who want to go directly into the workforce post-graduation.

We need your assistance with 5 of the 6 sessions which will take place from 5:30pm to 7:30pm via zoom on the following topics:

- CV and Letter of Intent
- Mock presentations- 2 rounds
- Mock interviews - 2 rounds

See top of right-hand column on this page

Howard Post Graduate Readiness Program cont.

The session dates are as follows:

- Monday, October 26, 2020- CV and Letter of Intent
- Monday, November 2, 2020- Mock Presentation Part 1
- Monday, November 9, 2020- Mock Interview Part 1
- Monday, November 16, 2020- Mock Presentation Part 2
- Monday, November 23, 2020- Mock Interview Part 2/Program Closing

Volunteers can assist with one or multiple sessions. The link to the session signup survey is provided below. Those who sign up will receive more detailed information that is session specific.

As always, we thank you for your support!

https://howard.az1.qualtrics.com/jfe/form/SV_cARivAm8uuuR2AZ

Student Corner

A Fusion of Fitness, Health, and Pharmacy

By Achan Joyce Tobias 4th Year Doctor of Pharmacy Candidate at Howard University College of Pharmacy

The role of a pharmacist consists of a myriad of functions that are reflective of our responsibilities in patient care. Oftentimes, pharmacists are expected to be in the retail pharmacy setting counting pills and occasionally counseling patients on over-the-counter medications such as loratadine versus cetirizine. Prior to beginning my matriculation into the world of pharmacy, this was the only image of a pharmacist I also carried in mind.

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I had a limited comprehension of the amount of influence pharmacists have in transforming patient health and wellness at various levels of the patient care model.

A few years ago, I became interested in working out consistently and made a New Year's Resolution in the year of 2016 to take better care of my body. Leading up to this point, I had never stepped foot in a gym before nor did I have an inkling of how a dumbbell differs from the squat rack. I never had an issue with my weight, therefore my relationship with food was not extremely healthy either. For some reason, a desire emerged within me to take a leap of faith and attempt a lifestyle change towards a version of myself that could be deemed healthier overall. Not for a moment did I imagine that almost five years later, I would be actively advocating for pharmacist roles to expand into one which serves to provide patients with the decision-making skills towards healthy food choices and weight loss or weight maintenance options.

One of the first steps in treating many chronic conditions, such as hypertension and Type 2 Diabetes Mellitus, include increased physical activity, smoking cessation, and diet modifications. Throughout pharmacy school, as we practiced during activities like the OSCEs, we were taught to always ensure that the patient is eating healthy and incorporating at least a few hours of exercise into their weekly routines. It is important to note that a patient may not fully comprehend the significance that these changes can add to their life or have knowledge on how to actually initiate these alterations in their daily life. Another significant factor to be aware of is the fact that some patients live in areas where the closest supermarket with healthy options is not accessible-they may live in a food desert. Food deserts are areas where people are limited in their options for affordable and nutritious foods. These areas usually have an influx of corner stores and fast-food chains that offer cheap and processed foods that can lead to increased heart disease,
See top left column of this page

obesity, and diabetes in these areas. This is where we, as one of the most accessible healthcare workers, can step in and counsel patients on the different steps they can take with the resources they may have at hand. Simply advising patients to increase their intake of fruits and decrease sodium from their diet may not provide them with enough information for support once they walk out the pharmacy, hospital, or clinic.

My experiences in the last few years of pharmacy school have greatly shaped my view on how I will proceed to impact patient lives as a pharmacist regarding changes in diet and exercise. I have had the satisfaction of working with different organizations during my time at Howard University's College of Pharmacy, which has resulted in a better understanding of my purpose in creating comfortable environments for patients to not only acknowledge the changes they need to develop to target A1C levels and weight loss, but to understand that these alterations also provide a life-long venture into health and wellness. During my second year of pharmacy school, I was able to collaborate with my peers in creating a cookbook of healthy recipes for an annual wellness fair hosted by the Capitol City Pharmacy Medical Reserve Corps (CCPMRC). In order to maximize the experience for participants, I simultaneously demonstrated how they can utilize typical household items like toilet paper rolls and chairs to create workouts that can be done at home, with no gym memberships required. In conjunction with the Sickle Cell Center at Howard University Hospital, I recently hosted a high-intensity interval training (HIIT) course and a Zumba class which I virtually taught to patients and families affected with sickle cell disease. The event further emphasized the power of health and wellness in all walks of life, especially patients who may require a little more encouragement from a trusted healthcare worker.

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Student corner continued from page 4

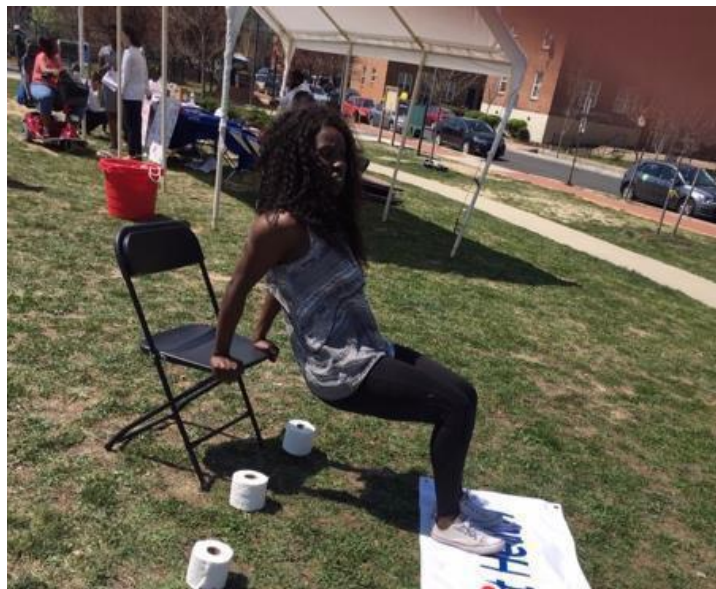
So, what are the various tips and advice we can give patients when it comes to their fitness and wellness? I have listed a few key points that I believe can be impactful when counseling patients:

1. It is a lifestyle change that takes time.
The journey to getting healthy does not happen overnight and patients should be aware that it can be hard to change old habits immediately. Therefore, they should set up small goals such as substituting white rice for brown rice, quinoa, or couscous, instead of making big leaps of complete carb elimination from their diet.
2. Patients should know that their body requires all macronutrients, including carbohydrates, contrary to popular belief. A particular food group should not be neglected because of its potential negative impact on the body. Carbohydrates and fats are actually needed by the body to function efficiently, so it becomes a matter of finding healthier choices in those food groups like avocados and sweet potatoes.
3. Measurable and attainable goals are more realistic in patients seeking to alter their lifestyles. An example would be advising a patient who may have minimal to no physical activity as a part of their daily routine to begin going on walks for 30-minutes every other day. Eventually, the patient may start jogging or increasing the amount of time spent outdoors.
4. There are so many ways we can increase our physical activity, ranging from having a mini-dance session in our living rooms to joining a Zumba class at the local gym. Offering patients different options may be the small dose of encouragement they were seeking to try something new and beneficial to their health.

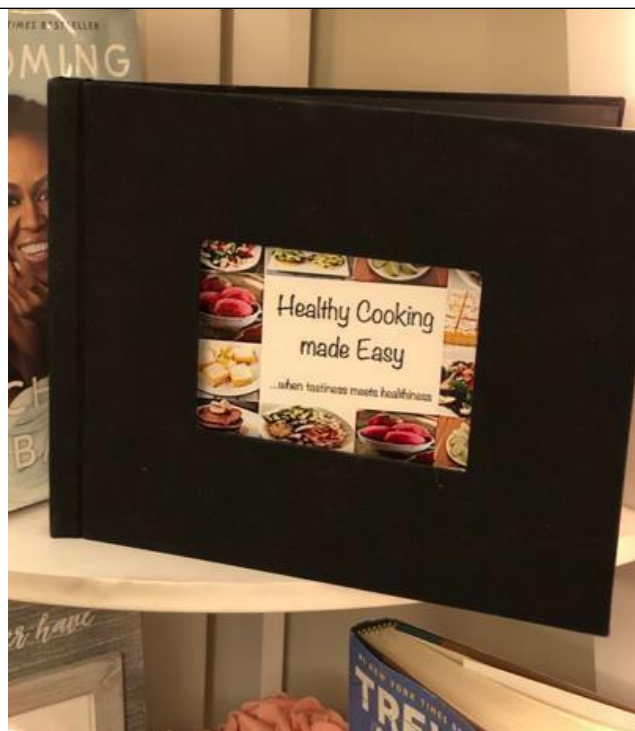
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5. Celebrate the small victories! We forget that the simplest step in the right direction is just that- a step in the right direction. It is a good feeling knowing that we have done something right and have been acknowledged for it. By giving our patients the environment of celebration and motivation, we are inspiring pivotal change that can last generations.

To say that my personal character development over the last few years has been transformational is an understatement. I began my fitness and wellness journey as a personal motivation to see what I am capable of, not realizing that I would eventually seek to enhance patient lifestyles with the newly acquired skills. I believe caring for our society, specifically the people we encounter daily in our workplaces, does not rely on medication therapy alone. It is paramount that we also give patients the resources and education on how nutrition and exercise can transform their lives positively.



During the Capitol City Pharmacy Medical Reserve Corps (CCPMRC), I was caught on camera demonstrating at-home exercises using household items like toilet paper rolls and a chair



A book of healthy, cost-effective recipes passed out to participants during a wellness fair hosted by Capitol City Pharmacy Medical Reserve Corps (CCPMRC). Authors are: Derrick Amenyedor, Fatima Bayo, Zulikhat Segunmaru, Achan Tobias, Rukiya Umoja



A favorite meal-prep recipe consisting of healthy alternatives I prepared with Iron Chef sauce which contains very low sodium content but still offers that great taste.



I recently went hiking with some close friends, a favorite pastime of mine I encourage everyone to try at least once. (L-R Rukiya Umoja, Achan Tobias, Laurel Alcenat, Ayi Daniels, Ashley Dike)

The Problem and Solution of Glass Ampule Filtration

By Sue Carr R. Ph President of CarrTech LLC

Glass ampoules were invented in 1890 by a French Pharmacist named Stanislaus Limousin to store sterile pharmaceutical solutions.¹ Ampoules are the most widely used common packaging solutions globally. They are small, sealed vials used to preserve samples in both liquid and solid forms. Ampoules are generally made of glass.² Since the usage for ampoules is profoundly impacted by its demand by pharmaceutical and life sciences' end users, the market remains highly inclined toward these end-users for demand variations.³ Glass ampoules are cheaper, readily available, have a longer shelf life, and are tamper proof and therefore offer less chance for diversion. Due to drug shortages, sometimes medications are only available in a glass ampule form. Ampoules are opened by breaking the neck of the container. Once the ampule is opened, glass shards enter the medication and must be filtered to avoid glass shard contamination.⁴ If medications are not filtered properly, glass shard contamination can lead to serious consequences.⁵ Glass shard contamination can cause inflammatory responses leading to blockage and hematomas affecting many organs which can cause pulmonary emboli, gastric bleeding and end organ granuloma which can affect the lungs, stomach, liver, and spleen and lead to death in severe cases.^{6,7}

The current process for filtering medications packaged in glass ampoules requires two needles, a filter needle (or filter straw) and a hypodermic needle. This is a complex multi-step process involving needle exchanges and recapping. The current procedure for filtering medications is not utilized properly by health care professionals due to the complexity of the process, time constraints, and availability of the filter needles.⁸ The World Health Organization reported 2 million needle stick injuries occurred in 2019.⁹ One in five nurses will experience a Needle Stick Injury (NSI) and most occur during the recapping process.¹⁰ Ampoule injuries account for up to 42% of all NSI. The figure is even higher in anesthesia practice where at least 54% of anesthesiologists experience an injury from broken ampoules.¹¹

The average cost of one needle stick injury in the US can range from \$500 to \$4000 US.¹² NSIs can be both physically and psychologically harmful.¹³ Physical risks include exposure to infectious diseases such as hepatitis A and B, and HIV.¹⁴ Many health care professionals run the daily risk of NSIs which increases with the use of a multi-step needle process for glass ampoules. Psychiatric disorders such as post trauma stress disorder following NSIs are shown to have major impacts on work attendance, family relationships and sexual health.¹⁵

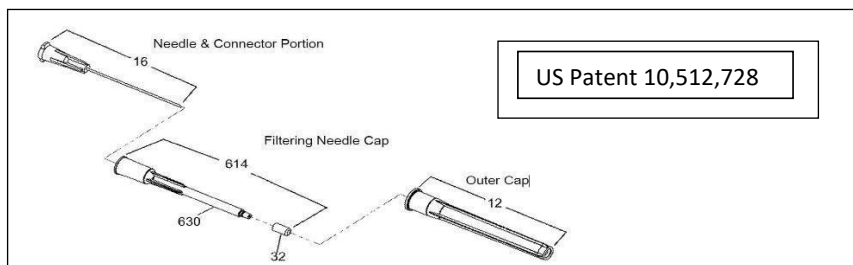
Not following the prescribed multi-step, two needle filtering process can result in serious medical complications for patients including inflammation, pulmonary thrombi, micro emboli, infusion phlebitis, end organ granuloma formation, and inflammation¹⁶ thus leading to increased hospitalization stays and possible death. Studies suggest one out of every two doses of filtered medications administered during medical emergencies were done so incorrectly and 66% of administration and aseptic techniques were inappropriate.¹⁷

The Joint Commission on Accreditation of Health Care Organizations (JCAHO) oversees all aspects of hospital practices to maintain standards of quality in medical care. It has no official connections to the United States government regulatory agencies but many medical facilities rely on JCAHO accreditation procedures to demonstrate to the public that the institution meets quality standards. The standards of care regarding the preparation of medications from glass ampoules are provided by the American Society of Hospital-System Pharmacists (ASHP), United States Pharmacopeia (USP 797)¹⁸ and the Infusion Nurses Society (INS).¹⁹

On the forefront is a new, one needle, one package system called the FROG™, an acronym for "Filter Removal of Glass," developed by CarrTech LLC. CarrTech has obtained three US patents No. 10, 512,728, 9,669,164, 8,002,751 and Canadian patent No. 294795

Continued on next page

This novel device is expected to improve safety and compliance by decreasing needle stick injuries, and saving time. The FROG™ simplifies a complicated process, eliminating the recapping step, which is one of the most dangerous steps²⁰ and decreasing preparation time by 50%. CarrTech has relocated the placement of the filter to the tip of the syringe rather than the lure lock end. The filter cover allows the medication fluid to be filtered without using a separate filter needle. The cover is then removed after filtering, revealing a new hypodermic syringe ready for injection. CarrTech conducted user studies and questionnaires with over 150 healthcare professionals and overwhelmingly received positive feedback.



Purpose:

This study was designed to demonstrate the limitation and the risk of the current two-step filtering needle, and present the improved, safer and quicker FROG™ for glass ampoule medication. This study hopes to validate better health outcomes for patients as well as health care workers.

Statistical method

Two studies were completed. The majority of the first study, a market discovery questionnaire, was conducted from May 2018 through July 2018. CarrTech piloted the market discovery questionnaire by interviewing both pharmacy personnel and nursing healthcare providers online, door-to-door, and hospital to hospital. A variety of Washington D.C., Maryland, and Virginia local hospital volunteers brought the questionnaires to their peers who filled out the survey. There were 23 pharmacy responses and 22 nursing responses submitted. An example of the first questionnaire is attached to this paper as Attachment A. Market discovery questionnaire results can be found at Attachment B.

The second study included the questionnaire and a human factors study that was conducted at a Courtyard Marriot Hotel in Gaithersburg, Maryland. Healthcare professionals were invited to participate. This study occurred on March 8, 2019. A few people who could not attend completed the questionnaire privately on a one-to-one basis through the end of March. There were booths set up and volunteers conducted the human factors study with each healthcare provider on an individual basis. They were asked to filter a glass ampule using the current two needle system and were timed. Then they were asked to filter a glass ampule using the FROG™. The glass ampules were 1 ml and contained sterile water for injection. The healthcare professionals consisted of pharmacist, pharmacy technicians, nurses, nurse practitioners, physician assistants, and physicians. In total, 75 health care professionals answered the questionnaire and participated in the human factors study. Pharmacist, pharmacy technicians, nurses, physicians, and nurse practitioners participated in the study as detailed in the following form:

Continued on next page

Questionnaire on Filter Needle Use

- 1) Name: _____
 - 2) Position: _____
 - 3) Do you regularly draw up medications from glass ampules using a filter needle? Yes / No
 - a) How many times per day? _____
 - b) For what medications? _____
 - 4) Do you find the standard manufacturing process for filtering medications time consuming or Cumbersome? _____ Yes / No _____
 - 5) Are you aware of injuries during the recapping process? _____ Yes / No _____
 - 6) Have you personally had any injuries during the filtrating process? _____ Yes/No _____
 - 7) Do you believe the OneStep will reduce needle-stick injuries? _____ Yes/No _____
 - 8) Do you see value using the OneStep Filter Needle device? _____ Yes / No _____
 - 9) Do you believe the OneStep will improve compliance in filtering? _____ Yes / No _____
 - 10) Time to filter using the current two needle multistep: _____
 - 11) Time to filter using the OneStep process: _____
 - 12) On a scale from 1-10 Rate the improvement using the OneStep, 1 meaning no improvement And 10 extreme improvement in the filtration process.
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____
- Can you provide any additional feedback comments or questions?

Results: Figure 1 shows the time spent using both Multi-stop and the FRO filtering processes where we clearly see that the multi-stop strategy takes more than twice the time compared to one stop filtering process. Figure 2 is the representation in percentage of the survey results collected from pharmacy workers and nursing workers. We notice most common medication for filtration are Vitamin K and norepinephrine, 96% of pharmacy workers transfer medications from glass ampules to IV bags. About 95% of pharmacy workers use a filter needle or straw. The average filter needle use is four times per day per worker and the most (84%) pharmacy workers see value in a combination device such as the FROG.

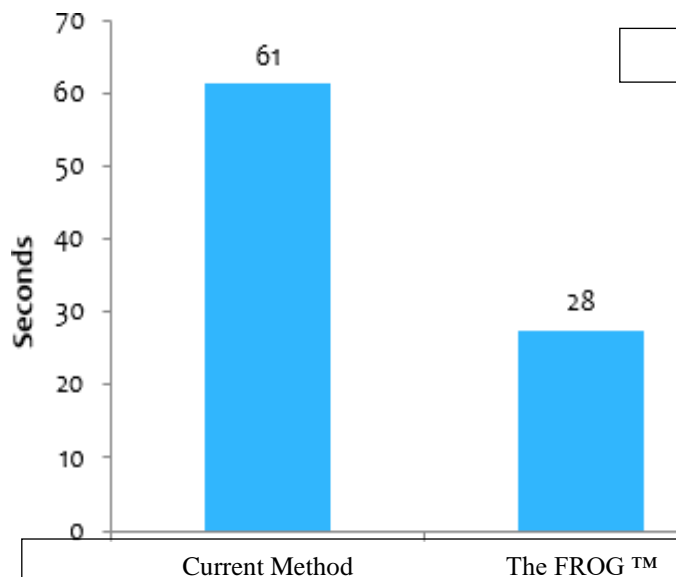


Figure 1 Time spent in incumbent and FROG Process

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Seventy-eight percent of nursing workers use a filter needle or filter straw with the average filter use being 4 times per week per worker. The most common medications for filtration are Fentanyl, Digoxin, and Levophed. Most (69%) nursing workers see value in a combination device. Ninety percent (59 respondents) reported that they found the current method time consuming and cumbersome in comparison with the FROG device; 86% (61 respondents) reported that they are familiar with needle-stick injuries associated with the current method. Furthermore, 46% of the respondents had personally experienced injuries with the current method, and 100% of the respondents reported that they believe FROG will reduce needle stick injuries. In addition, 92% (63 respondents) expressed confidence that FROG will improve filtration compliance

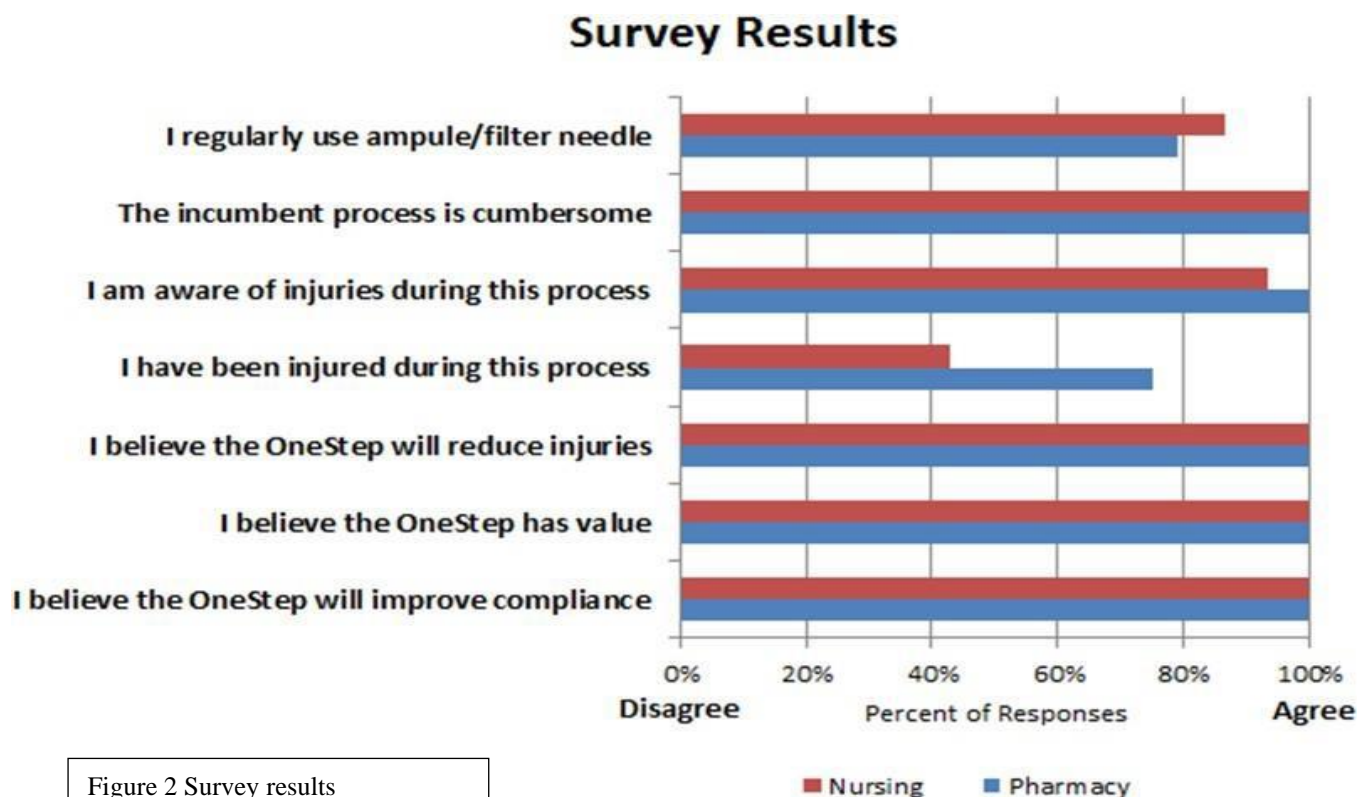


Figure 2 Survey results

Participants typically accomplished filtration twice as fast with the FROG, saving an average of 30 seconds per procedure. This 30 second decrease in the time to administer a drug could be critical in emergency situations. Finally, in the confidential survey, participants were asked to rate the technical advance provided by the FROG. On a scale of 1 to 10, with 10 representing the greatest improvement. The average of 62 responses was 9.4 ± 1.5 (S.D), indicating strong consensus among participants that the FROG provides substantial improvement and advantages over the current method

Discussion

Many nurses and educators do not practice or promote the proper use of filter needles and may consider it discretionary, thus leading to unsafe practices. According to JCAHO, 1.5 million preventable adverse drug events happen in the U.S. each year. *Continued on next page*

The 400,000 that occur in hospitals result in \$3.5 billion in additional costs.²¹ There are specific guidelines for filtering drug solutions provided by the United States Pharmacopeia Chapter 797 (USP), American Society of Health System Pharmacist (ASHP), Infusion Nurses Society (INS), and the Anesthesia Patient Safety Foundation.²² (APSF). Per good manufacturing practices, these recommendations on proper filtering of ampoule-based medications must be adhered to, using both a filter needle, a hypodermic needle, and multiple steps.

Certain drug solutions, especially those contained in glass ampules, must be filtered. Some examples of medication packaged in ampules identified by CarrTech's surveys include but are not limited to: Vitamin K, Norepinephrine, Epinephrine, Narcan, Dilaudid, Fentanyl, Dilantin Digoxin, and Propofol. When there are drug shortages, as in the current COVID-19 Pandemic situation, many drugs are only available for purchase in glass ampule form. With an increase in glass ampule medication reaching more areas of the hospital, there comes a higher risk of improper administration techniques.

The current, multi-step protocol for filtering medications, when done properly, requires health care provider to draw medication needing to be filtered into a syringe using a filter needle. Once filtered, the health care provider recaps the filter needle, removes and discards the needle, opens a new sterile hypodermic needle, then places it onto the syringe. This ensures a "clean" product can be administered to the patient. Quite often, health care professionals do not understand the full concept of how to filter a drug solution properly. Time restraints, especially during emergency situations, and the lack of availability of a filter needle also contribute to health professionals not following the process.

Another problem for healthcare workers using a multi-step process is an increased risk of NSIs. According to the WHO, health care workers suffer up to two million NSI per year, of which 42% are associated with glass ampoules.^{23,24} As stated above, the average cost of one needle stick injury in the US can range from \$500 to \$4000. With 42% of NSIs coming from glass ampule usage, the cost to hospitals is between \$420M and \$3.36B per year at an average of \$1.9 billion dollars per year to treat from avoidable glass ampoule related NSI.^{25,26}

When filtering is not performed correctly, it poses a serious risk of glass particles or unwanted matter reaching the patient, which could result in catastrophic consequences for patients including infections, sepsis, end organ granulomas, and possibly death.^{27,28} As an example, a patient may be given a bag containing Vitamin K to stop excessive bleeding from a Warfarin overdose. If the filter needle process is not followed, glass particles could be circulating throughout the patient's veins or arteries. This could be life-threatening for the patient. So, the question remains, did the patient die from a Warfarin overdose or was it improper filtering techniques? This is difficult to determine and often overlooked.

Conclusion

The glass ampule problem is not going away anytime soon due to drug shortages especially during the COVID-19 Pandemic.²⁹ It is evident that it is not just a problem in the United States, but globally as well. Better education and better filtering methods are two of the solutions to the ongoing filter needle problem. CarrTech's study focused on an improved strategy for a successful, effective, and safer filtration process using glass ampoule medications. *Continued the next page*

They found that there is an immediate need for a simpler and safer method of filtering drug solutions. As mentioned above, an all-in-one package, one needle unit is the ultimate solution for appropriate use of the glass ampoule.

https://www.youtube.com/watch?v=7_PwSFCoAVU&t=39s

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²⁹ <https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-supply-chain-update>

Questions for Pharmacy

1. Do you transfer medications from a glass ampoule into IV bags? (Sue, are meds transferred into containers other than IV bags?)
YES
2. Do you transfer non-Ampoule medications that require filtration into IV bags?
YES
3. Do you use a filter needle or straw?
 - a. Yes
 - i. How many times per day? 3
 - ii. for what medications? Vitamin K, Norepinephrine.
 - b. No
 - i. Have you used filter needle/straw? When/where
 - ii. are you aware of standard xxx, which requires the use of filter for yyy?
4. What is difficult about this process?
 - a. Changing needle → have a possibility of forgetting this step
5. How much time is required for this process?
 - a. Approximately 5 mins
6. Have you ever been injured by the needle? At which step?
 - a. Yes, while breaking the ampule
7. Do you see value in a combination device comprising an outer filter straw for withdrawal, which is removed to expose a hypodermic needle? This would eliminate the separate step of opening and affixing the hypodermic needle to the syringe?
Yes

Questions for Nursing (hospital and Physician's office)

1. Do you inject medications from glass ampoules?
2. Do you Inject non-ampoule medications that require filtration?
3. Do you use a filter needle or straw?
 - a. Yes
 - i. How many times per day?
 - ii. for what medications?
 - b. No
 - i. Have you used filter needle/straw? When/where
 - ii. are you aware of standard xxx, which requires the use of filter for yyy?
4. What is difficult about this process?
5. How much time is required for this process?
6. Have you ever been injured by the needle? At which step?
7. Do you see value in a combination device comprising an outer filter straw for withdrawal, which is removed to expose a hypodermic needle? This would eliminate the separate step of opening and affixing the hypodermic needle to the syringe?

7. Do you see value in a combination device comprising an outer filter straw for withdrawal, which is removed to expose a hypodermic needle? This would eliminate the separate step of opening and affixing the hypodermic needle to the syringe?

Attachment B: Market Discovery Results

Pharmacy	Responses	Count	
1 Do you transfer medications from a glass ampoule into IV bags?	23	22	96%
2 Do you transfer non-Ampoule medications that require filtration into IV bags?	19	14	74%
3 Do you use a filter needle or straw?			
Yes	22	21	95%
How many times per day?	16	3.8	uses/day
Vitamin k		11	
Levophed		10	
Other		9	
Norepinephrine		7	
Epinephrine		4	
Fentanyl		4	
Promethazine		3	
Morphine		1	
No			
4 What is difficult about this process	21		
Not Difficult		4	19%
changing the needle		6	29%
breaking the ampule		4	19%
high risk of injury breaking ampule		3	14%
multiple steps		3	14%
ready supply of filter		1	5%
5 How much time is required? (total administration time?)	21		
30 sec		5	24%
1 min		2	10%
2 min		5	24%
5 min		7	33%
10 min		1	5%
6 Have you ever been injured by the needle? At which step?	19	2/23	
replacing needle cap		3	16%
7 Do you see value in a combination device...	19	16	84%
save time		4	
reduce injury		5	

Pharmaceutical Compounding: Mushroom Soup

As readers of last month newsletter will remember, WMSHP President Elect Dr. Ashok Ramalingam published the first ever cooking recipe in our newsletter. Not to be outdone, former WMSHP Secretary Mary Li has created a very professional YouTube video of a Mushroom Soup recipe. Board members are planning a trip to her kitchen to validate GMP's are being followed.



YouTube video with Cream of Mushroom soup recipe: <https://www.youtube.com/watch?v=qOaxKNv1QRw&t=3s>



A 2019 Pre-COVID WMSHP Picnic. From left to right. WMSHP delegate Michelle Eby, WMSHP President Vaiyapuri Subramaniam, WMSHP Past President Sadhna Khatri and WMSHP Treasurer Opeoluwa Fagbemi

Presidents message from page 1	
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Culturally competent care can improve patients' health, reduce health disparities and promote health equity that can positively impact medication adherence and lead to patient satisfaction. As shared in the Presidents message from the WMSHP September 2020 newsletter edition, the HHS guidance under the Public Health Readiness and Emergency Preparedness Act (PREP Act), which authorizes licensed pharmacists to order and administer FDA-authorized Covid-19 tests, serves as a good example of the critical role pharmacists can accomplish from their accessibility as health care providers to patients in need.

This month's newsletter continues to reflect WMSHP's commitment to communication and educational outreach. **On page 1**, is an article, "*Technology in Pandemic Times*," by one of WMSHP's newsletter editors, Theresa Chan, PharmD, that highlights the November 19th joint WMSHP-Pharmacy Times continuing education (CE) session, titled "*Immune Checkpoint Inhibitors: Utilizing telemedicine to enhance management of adverse events within health-system settings*." With the Covid-19 pandemic that has driven the rapid expansion of telemedicine in many practices, this CE session exemplifies methods by which telemedicine can overcome barriers to cancer care specifically in immune checkpoint inhibitor therapy to manage adverse events. Please look out for the WMSHP announcement on this informative educational event to register and attend the CE session.

On Page 2, a new column has been added, titled "Supporter Spotlight," that features our industry stakeholders with whom we have collaborated to contribute to the virtual monthly educational programs. We are delighted to introduce Emily Guerrieri, PharmD, BCPS, a medical science liaison from AstraZeneca who provides insights on initiatives by her company in science and life-changing medicines. The newsletter will also provide additional *Supporters Spotlights* in future issues to recognize our other medical science liaison pharmacist stakeholders who collaborated to provide support in educational programs to the society. **On Page 3**, the newsletter depicts an article from a Howard University College of Pharmacy student Achan Tobias on "A fusion of fitness, health, and pharmacy" that discusses how pharmacists can have an impact on patients to promote healthy lifestyles to potentially mitigate the need for medication. **On Page 7**, we have an article from WMSHP Membership Committee Vice-Chair, Sue Carr, RPh, President and Founder of CarrTech, LLC, who has written on "*The Problem and Solution of Glass Ampule Filtration*" that highlights a solution in pharmaceutical technology innovation from her company. **On Page 3**, WMSHP is pleased to announce the Howard University College of Pharmacy (HUCOP) Annual Post Graduate Readiness Program to prepare students for pharmacy residencies and for those who wish to enter the pharmacy workforce immediately following graduation. The contact for this Readiness Program is WMSHP Board Member Jamila Jorden, PharmD, a faculty member at the HUCOP. **On Page 15**, we have a YouTube video link for a Mushroom Soup recipe by WMSHP's member Mary Li, PharmD.

I would also like to draw your attention to the WMSHP newsletter announcement on ***Advertising Opportunities*** shown on **page 18**. The WMSHP newsletter has started to accept half-page advertisements from anyone for a nominal fee and who to contact if interested.

Recently, WMSHP announced a call for nominations for upcoming executive board positions that will become vacant whose terms in office will begin in January 2021. Please refer to the announcement sent out during early October 2020 that outlines all the vacant positions with descriptions for members to consider to run for office. Members who seek a higher level of professional involvement in WMSHP have found being an officer a fun and worthwhile pursuit. If you have questions after reading the announcement for the vacant positions, feel free to reach out to me personally. I urge you to consider running for office.

We thank you for your continued interest and support of WMSHP.
Please use the society website (www.wmshp.org) to stay informed.

Thank you and stay safe.
Sincerely,

Puri

Vaiyapuri Subramaniam, PharmD, MS, FASHP, FASCP, FCP, FFIP.
President, WMSHP

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Advertising Opportunities

The WMSHP newsletter will start accepting half page advertisements as part of the newsletter.

For small businesses and hospitals, the rate will be \$20 a month or \$100 a year. For drug companies and larger medical related businesses, the rate will be \$30 a month or \$200 a year

Advertisements must be emailed to webwmsHP@gmail.com by the 15th of the month to be included in the next newsletter. Both print images are acceptable.